

METHOD AND APPARATUS FOR DETERMINING A  
DYNAMIC RANGE OF A DIGITAL MEDICAL IMAGE

## ABSTRACT OF THE DISCLOSURE

A method and apparatus are provided for adjusting a dynamic range of a digital medical image for a medical imaging system. The digital medical image contains a clinical region and a non-clinical region. The method and apparatus identify the non-clinical region of the digital medical image and mask the non-clinical region therefrom to form a clinical image. The clinical image is then used to calculate a desired dynamic range for the medical imaging system. The dynamic range of the medical imaging system is adjusted accordingly. According to one embodiment, the non-clinical region is identified by dividing the digital medical image into bands of a predetermined width, generating profiles for each band and differentiating the profiles to obtain a differentiated profile of each band of a digital medical image. The differentiated profile is then analyzed to identify peaks that exceed predetermined thresholds, wherein the regions of the differentiated profile proximate the peaks exceeding the threshold correspond to non-clinical regions. Once the non-clinical regions are identified, they are masked or removed. Next, a desired image characteristic, such as maximum and minimum gray scale values, are determined for the clinical region and a desired dynamic range for the image is obtained based on the image characteristics of the clinical region. In an alternative embodiment, a histogram is used to identify the non-clinical regions which are subsequently masked from the digital medical image.